

How Can the NAEP Questions Tool Help Classroom Teachers?

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Tennessee State Department of Education

September 20, 2011



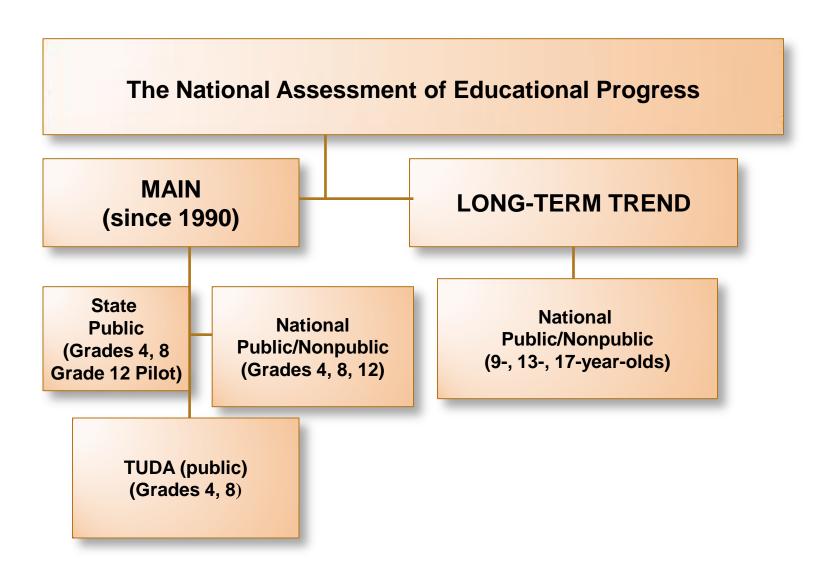
What is NAEP?

- ★ The National Assessment of Educational Progress (NAEP) is the largest continuing and nationally representative assessment of what our nation's students know and can do.
- ★ It has served as a national yardstick of student achievement since 1969.
- ★ Through *The Nation's Report Card*, NAEP informs the public about what America's students know and can do in various subject areas, and compares achievement between states, large urban districts, and various student demographic groups.

Source: National Assessment Governing Board (NAGB)



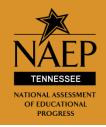
NAEP Components





2011-2012 NAEP Assessment Windows

Age/Grade	Subjects	Assessment Window
Grade 4	Writing computer-based (pilot)	January 23 – March 2, 2012
Grade 12	Economics (operational) Mathematics & Reading (pilot)	January 23 – March 2, 2012
Age 9	Long-Term Trend Reading and Mathematics (operational & pilot)	January 9 – March 16, 2012
Age 13	Long-Term Trend Reading and Mathematics (operational & pilot)	October 10 – December 16, 2011
Age 17	Long-Term Trend Reading and Mathematics (operational & pilot)	March 19 – May 25, 2012



- Provides educators, researchers, parents, and students access to released questions from NAEP assessments in nearly all assessments.
- Provides examples of what NAEP asks students in grades 4, 8, and 12
- Examines student performance on a specific question by subgroups and state
- The NAEP Questions Tool is available on line at http://nces.ed.gov/nationsreportcard/itmrls



- Released questions can help provide context to results for your state
- Used in the national reports and are commonly seen in big media releases

2010 NAEP U.S. History

Historians use artwork as well as what people wrote down to learn about the past.

The picture to the right was made in 1849. It shows members of the Sioux tribe. Using what you can see in the picture, describe three ways the Sioux used natural resources to meet their needs. Be specific.



COMPLETE RESPONSE:

- 1. They used wood for fire
- 2. They used animal skin for homes
- 3. They used wood to make barrels

Percentage of fourth-grade students in each response category: 2010

Complete	Partial	Inappropriate	Omitted
23	36	33	7

NOTE: Detail may not sum to totals because the percentage of responses rated as "Off-task" is not shown. Off-task responses are those that do not provide any information related to the assessment task.



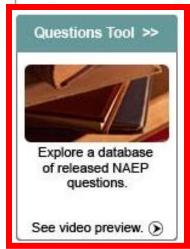


NAEP Questions Tool

Analyze Data | Sample Questions | State Comparisons | State Profiles

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Scoring >>

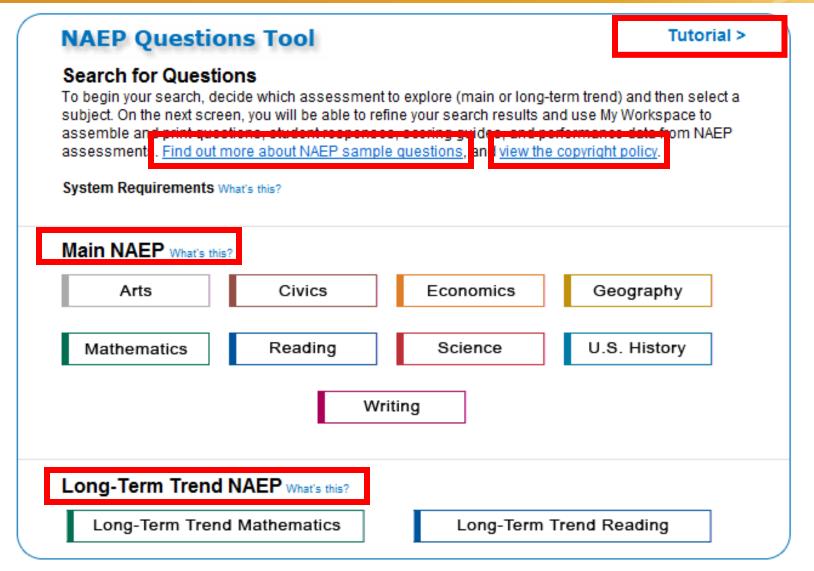


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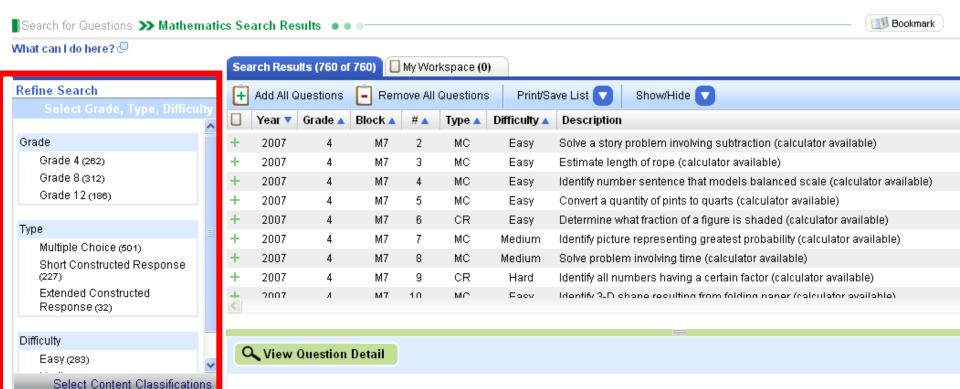




Select Years

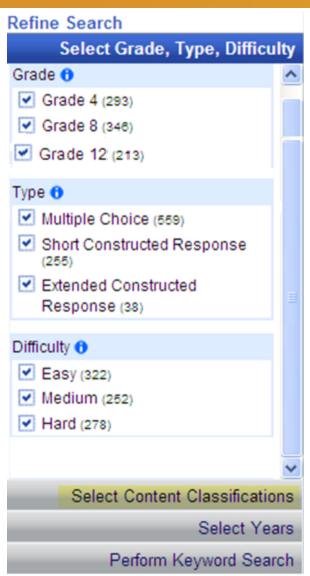
Perform Keyword Search

NAEP Questions Tool



To preview a question here, click on a row above.





- Grade
 - **4**
 - **8**
 - **1**2
- Type
 - Multiple Choice
 - Short Constructed Response
 - Extended Constructed Response
- Difficulty
 - Easy
 - Medium
 - Hard



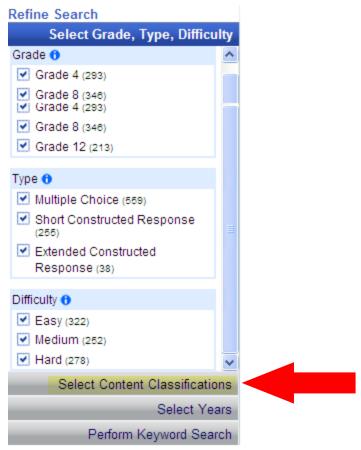
Question Difficulty is categorized as easy, medium, or hard. For multiple-choice questions and questions that are either right or wrong:

- easy questions are those that over 60 percent of the students answer correctly;
- medium questions are those that 40 to 60 percent of students answer correctly; and
- hard questions are those that fewer than 40 percent of students answer correctly.

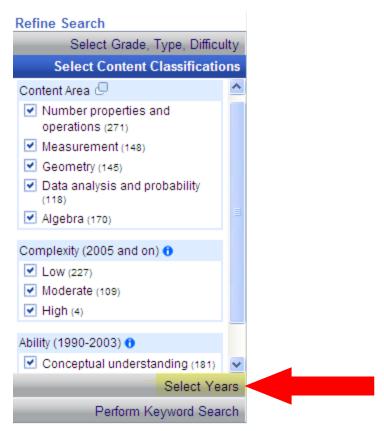
For constructed-response questions, Question Difficulty is also categorized as easy, medium, or hard.



✓ Click to remove checks for unwanted criteria. Slide the scroll bar to see all criteria

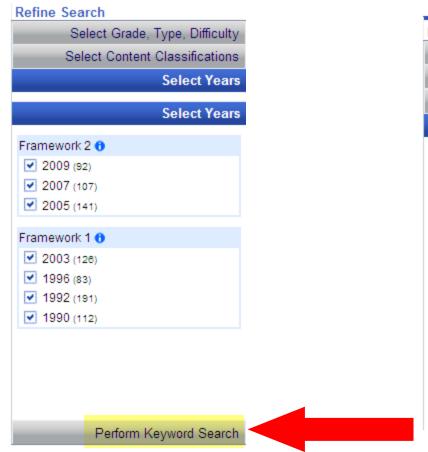


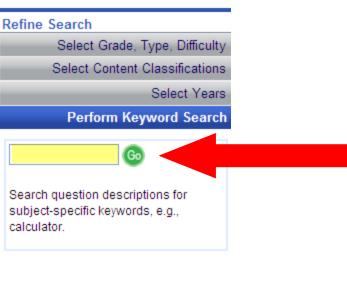




Click on "Select Years"







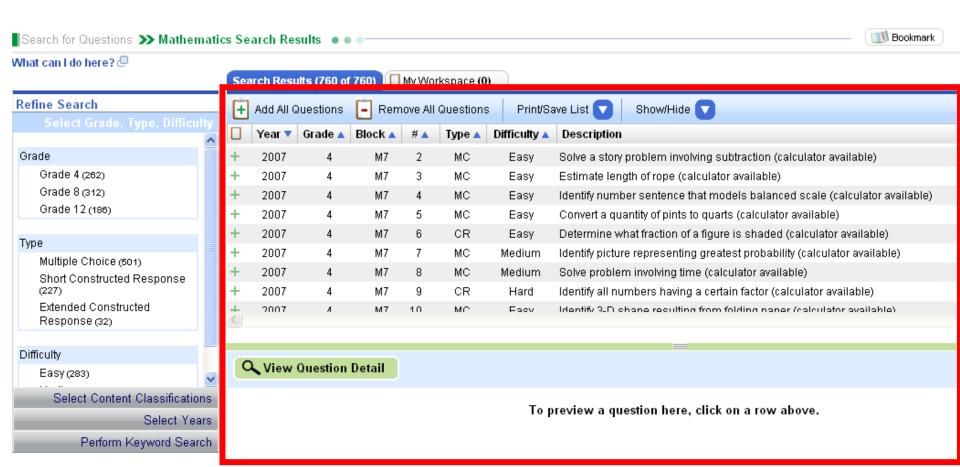
Click on "Perform Keyword Search"

Type in keyword

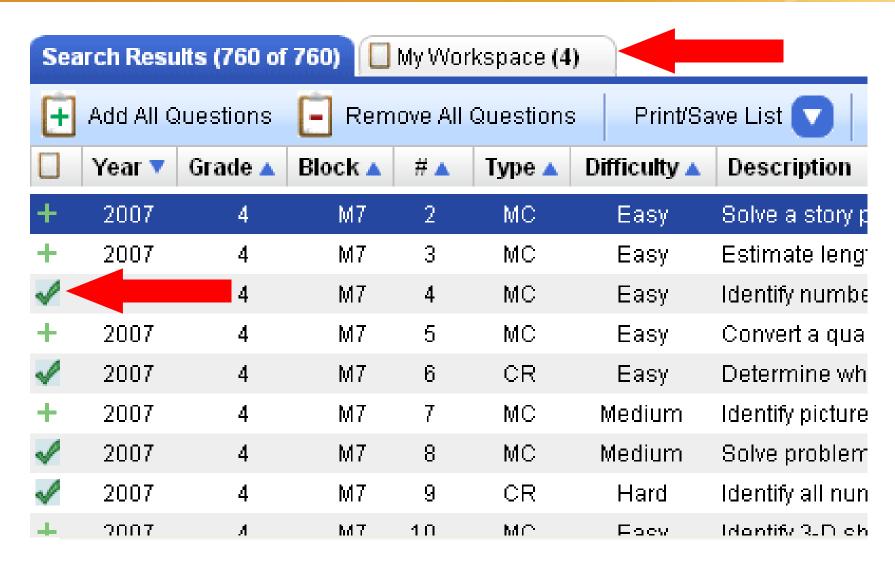


Sea	rch Resu	ılts (23 of 8	352)				
+	Add All C	Questions	Remo	ove All	Questions	Print/Sav	ve List Show/Hide Show/Hide
	Year ▼	Grade 🛦	Block 🛦	# 🔺	Type 🔺	Difficulty 🔺	Description
+	2009	4	M5	11	MC	Medium	Identify pictorial representation of equivalent fractions
+ -	2009	4	M10	15	MC	Hard	Identify fraction closest to given value
+	2009	8	M5	10	MC	Easy	Identify pictorial representation of equivalent fractions
+ -	2007	4	M7	6	SCR	Easy	Determine what fraction of a figure is shaded (calculator available)
+	2007	4	M9	4	MC	Easy	Identify fraction modeled by picture
+ -	2007	4	M9	11	SCR	Easy	List fractions equivalent to given fractions
+	2007	4	M9	18	SCR	Medium	Compare unit fractions to solve a problem
+ -	2007	8	M7	7	SCR	Medium	Convert sum of fractions to decimal number using place value (calculator available)
+	2007	8	M9	12	MC	Medium	Identify fractions listed in ascending order (calculator available)
+ -	2007	8	M11	3	MC	Easy	Determine fraction of figure shaded
+	2005	4	M12	2	MC	Medium	Subtract fractions with common denominators
+	2005	4	M12	7	MC	Medium	Approximate fraction of an hour given minutes

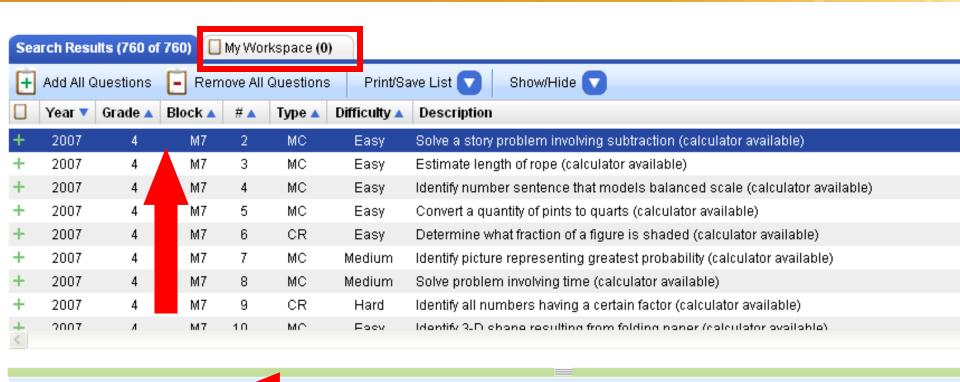












2. On Saturday 789 people went to the zoo. On Sunday 983 people went to the zoo. How many more people went to the zoo on Sunday than on

A. 194

Q View Question Detail

- B. 204
- C 206



Question Detail

- 1. Actual question
- 2. Key / Scoring guide
- 3. National data
- 4. Jurisdiction data



Question Information

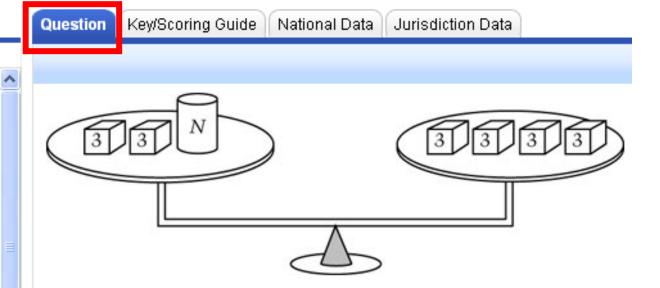
 Description: Identify number sentence that models balanced scale (calculator available)

Grade: 4

Year: 2007

 Block & Number: Block M7 Question #4

- Type of Question: Multiple Choice
- Difficulty: Easy (78.96% Correct)
- Content Classification:
 - Contont Areas



4. The weights on the scale above are balanced. Each cube weighs 3 pounds.

A.
$$6 + N = 12$$

B.
$$6 + N = 4$$

C.
$$2 + N = 12$$

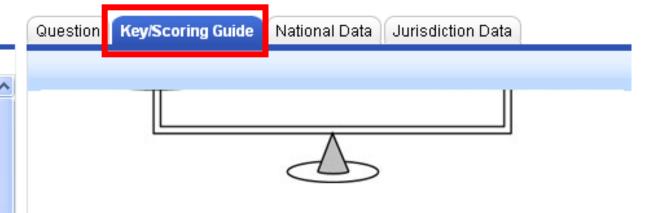
D.
$$2 + N = 4$$

Did you use the calculator on this question?



Question Information

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- Grade: 4
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- 4. The weights on the scale above are balanced. Each cube weighs 3 pounds.
 - A. 6 + N = 12
 - B. 6 + N = 4
 - C. 2 + N = 12
 - D. 2 + N = 4

Did you use the calculator on this question?

- O Yes
- O No

The correct answer is A.

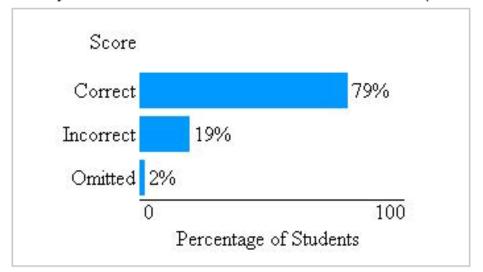


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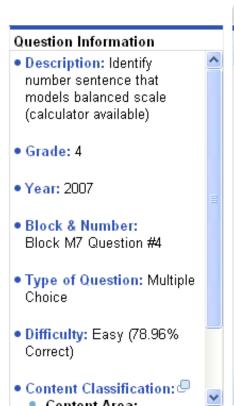


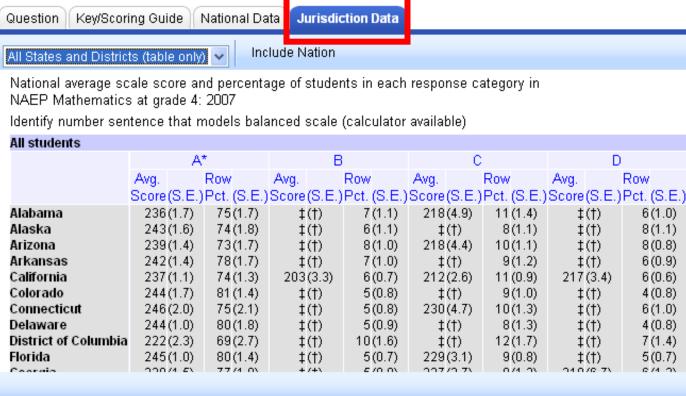
NAEP national performance results in Mathematics at grade 4: 2007 Identify number sentence that models balanced scale (calculator available)



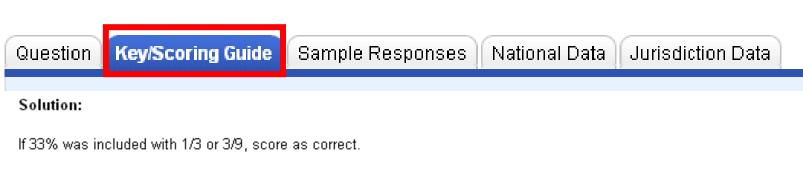
NOTE: These results are for public and nonpublic school students. Percentages SOURCE: U.S. Department of Education, Institute of Education Sciences, Nation:

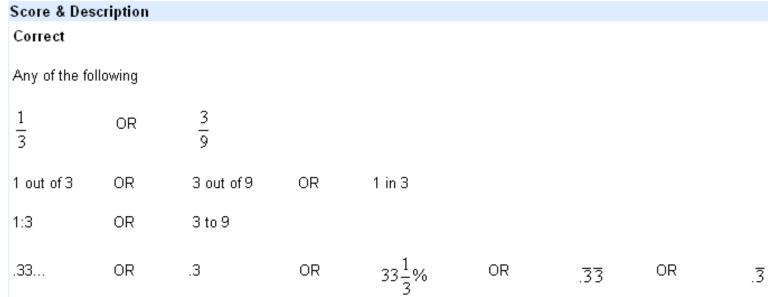






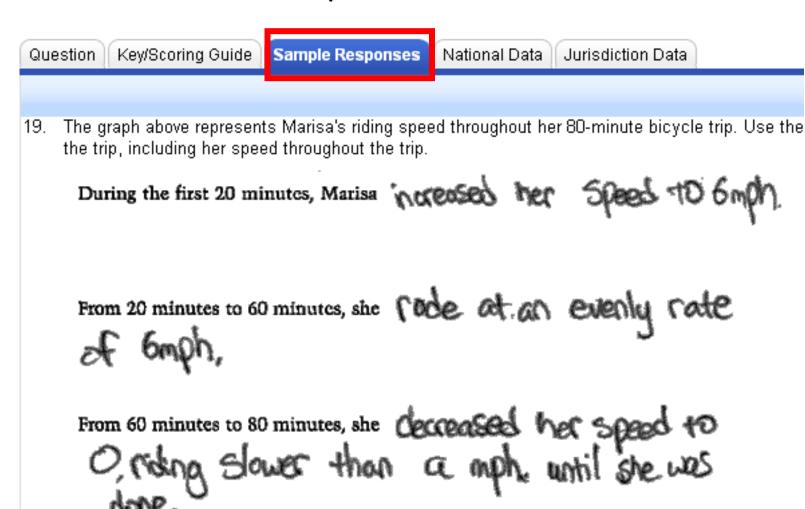
Short Constructed Response





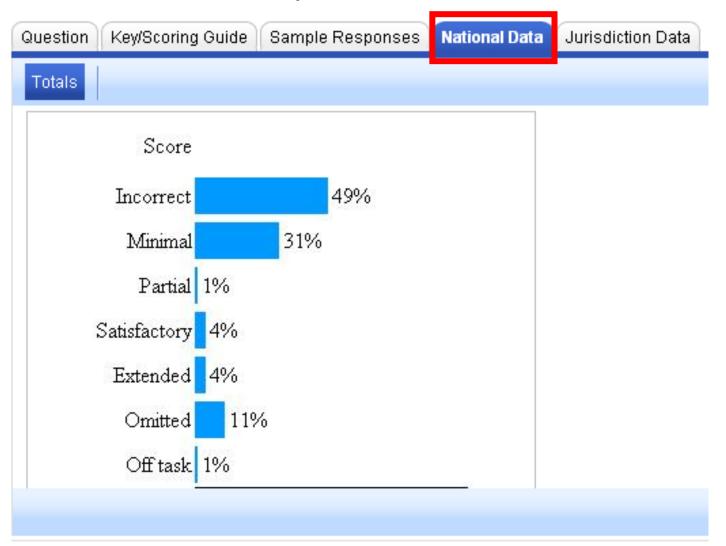


Extended Constructed Response

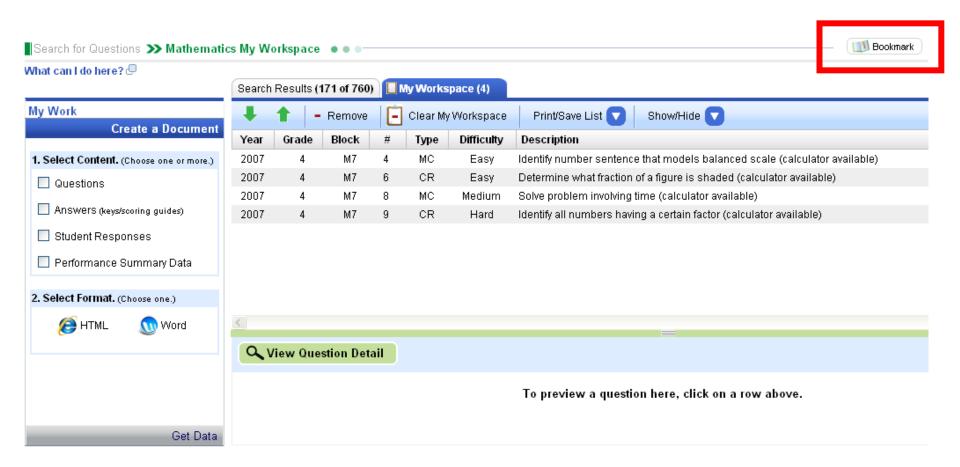




Extended Constructed Response











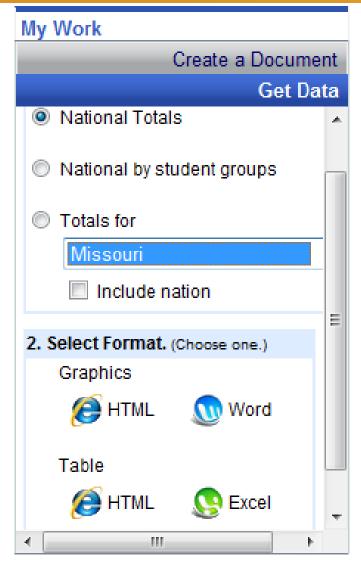
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http://nces.ed.gov/nationsreportcard/itmrlsx/portal.aspx? type=search&settings=0;5;;;;;;;011102100310041005100610 -4M5:2:2009-4M5:4





National average scale score and percentage of students in each response category in NAEP Mathematics at grade 4:2009

Recognize type of transformation from picture

All stude	All students													
		A	E	3	(*)	Omitted					
	Avg.	Row	Avg.	Row	Avg.	Row	Avg.	Row	Avg.	Row				
	Score(S.E.) Pct. (S.E.	Score (S.E.	Pct.(S.E.)	Score(S.E	.) Pct. (S.E.)Score(S.E.	Pct.(S.E.)	Score (S.E.	Pct.(S.E.)				
Missouri	222(3.5)	12(1.4)	‡(†)	2(0.6)	246(1.5)	79(1.9)	‡(†)	5(1.1)	‡(†)	2(0.6)				

- ! Reporting standards not met.
- † Not applicable.
- * Indicates correct response.

NOTE: The NAEP Mathematics scale ranges from 0 to 500. Some apparent differences between estimates may not be statistica SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Ass

National average scale score and percentage of students in each response category in NAEP Mathematics at grade 4: 2009

Use given pieces to make shape with certain properties

All stude	All students																			
	Incorrect				Partial					Corr	ect		Omitted				Off task			
	Avg.		Row		Avg.		Row		Avg.		Row		Avg.		Row		Avg.		Row	
	Score	(S.E.)	Pct.	(S.E.)	Score(S.E.)Pct.	(S.E.)	Score	(S.E.)	Pct.	(S.E.)	Score)	(S.E.)	Pct.	(S.E.)	Score (S.E.)	Pct.(S.E	Ξ.)
Missour	i 228	(2.8)	25	(2.2)	244((1.8)	46	(2.0)	249	(3.1)	25	(1.9)	‡	(†)	3	(0.7)	‡((†)	#(†)	

[#] Rounds to zero.





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See video preview. (>

Item Maps >>



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300 290 282 Advanced □ 280 276 Approximate fraction of an hour given minutes (MC) 275 Solve a story problem involving comparison of unit costs—Minimal Response (CR) 273 Solve a story problem involving large numbers (calculator available)—Correct Response (CR) 272 Determine missing numbers in number sentence—Correct Response (CR) 272 Solve a story problem involving multiplication (calculator available) (MC) □ 270 ▲ 260 Determine the width of a rectangle after it is folded (MC) ▲ 260 Arrange tiles in different ways to satisfy given condition—Partial Response (CR) **260** 258 Represent a situation with an algebraic expression (MC) 254 Identify which figure on grid has greatest area (MC). ▼ 253 Complete a bar graph from a description of data (CR) 250 □ 249 Proficient ◆ 247 Determine missing numbers in number sentence—Partial Response (CR) • 245 Determine the value of a point on a number line (CR) 242 Identify given measurements on a ruler—Partial Response (CR)

▲ 240 Arrange tiles in different ways to satisfy given condition—Minimal Response (CR)

□ 240





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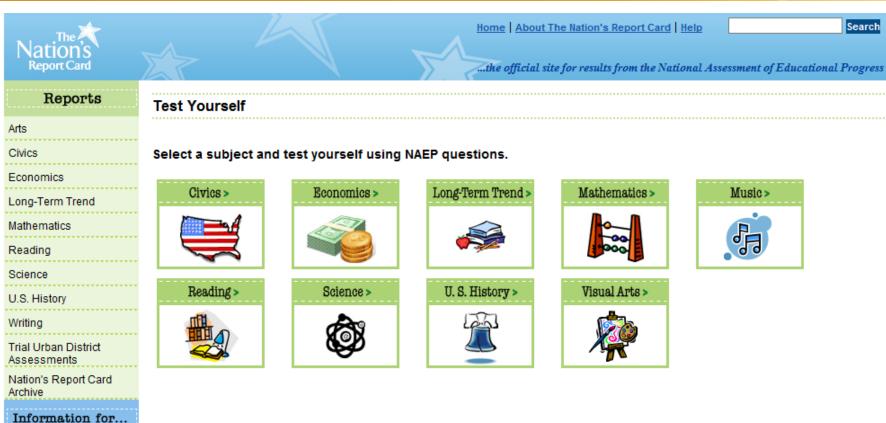
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Educators

Media

NAEP Questions Tool



No proficiency level determination or scale score





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•	ABOUT NAEP	-	SUBJECT AREA	S	HELP S	ITE MAP	CONTACT US	GLOSSA	RY	NEWSFLASH
S	AMPLE QUESTIONS	Al	NALYZE DATA	STA	TE PROFILES	PUBLI	CATIONS			search NAEP
	lte		go							
	The Na	tion	's Report Card	[hon	ne]					

NAEP Item Scoring Process

The National Assessment of Educational Progress (NAEP) uses a combination of multiple-choice and constructed-response items (questions) in its assessment instruments. For multiple-choice items, students are required to select an answer from a list of options; responses are electronically scanned and scored. For constructed-response items, students are required to provide their own answers; responses are scanned and then scored by qualified and trained scorers using a scoring guide and an electronic image-processing and scoring system.

Scoring all NAEP items in an objective, consistent, and valid fashion is a key program goal. As outlined in the <u>summary of the NAEP item scoring process</u> (40K <u>PDF</u>), there are a number of steps in the NAEP scoring process that occur during three general phases: scoring guide development and pilot, first operational scoring (or pre-calibration), and subsequent operational scoring. In all phases of scoring, quality control and validity checks are implemented in the scanning, processing, and scoring of multiple-choice items. The following sections further describe key steps in the NAEP scoring process, focusing, in particular, on constructed-response items:

- · Initial Development of Scoring Guides
- · Review of Initial Scoring Guides
- Preparation of Scoring Guides and Training Materials for the Pilot Test
- · Preparation for Scoring Operational Assessments
- First Operational Scoring (and Field Test for Pre-Calibration)
- · Subsequent Operational Scoring
- · Procedures for Assuring Consistent, Valid, and Objective Scoring
 - o Identifying Qualified Scorers
 - Ensuring Ongoing Quality
 - Maintaining Consistency Across Time
- Delivery of Scores for Data Analysis



QUESTIONS?

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